

Mandom confirms the effects of the calming properties of fragrance on sleep quality and skin condition

Mandom Corporation (Head office: Osaka, President Executive Officer & Director: Ken Nishimura, hereinafter “Mandom”) pursues “creation of new value” as a human-oriented company to delight, excite, and bring joy to consumers. We engage in a variety of affective research not only to pursue the functional value of our products but also to enhance their emotional value.

Mandom has previously demonstrated that certain fragrances have a calming (relaxing) effect on the autonomic nervous system and central nervous system. In this study, it was confirmed that when stressed consumers with sleep issues continued to use skin care products containing this fragrance, their sleep quality tended to improve, the time it takes to fall asleep was shortened, and their skin became brighter. These results suggest that the relaxing effects of fragrances may have a positive impact on sleep and skin condition in everyday life and provide new insights that could lead to the realization of “skincare for joyful skin, joyful you.”

The results of this research were presented at the 27th Annual Meeting of the Japan Society of Kansei Engineering, which was held from Wednesday, September 17 to Friday, September 19, 2025.

Background of the research

At Mandom, we aim to create “skincare for joyful skin, joyful you,” and we develop products through not only skin research but also affective research.

Fragrances are known to not only stimulate the sense of smell but also affect memory, emotions, the autonomic nervous system, and the central nervous system, and they are also expected to relieve stress and improve sleep. Mandom’s previous research has also revealed that a specific fragrance developed by Mandom (Fragrance A) has a calming (relaxing) effect on the autonomic nervous system and central nervous system^{*1}.

Furthermore, we hypothesized that if we could elucidate what effect skin care using Fragrance A had on consumers’ minds and skin, it would lead to the realization of “skincare for joyful skin, joyful you.” Therefore, in this study, we focused on changes in skin condition, sense of relaxation, and sleep quality after continuous use of skin care products containing Fragrance A.

Research content

In this study, women experiencing stress were asked to use skin care products containing Fragrance A (three products: cleanser, lotion, and cream) continuously for approximately four weeks. Changes in sleep and skin condition were confirmed by comparing before and after use, and the sense of relaxation after continued use was also evaluated by comparing groups with and without Fragrance A.



■ Experiment overview

[Subjects] 36 Japanese women aged 25–48 under mild to moderate stress according to a stress checklist and who have sleep issues

[Test samples and group name]

- Skin care products containing Fragrance A (cleanser, lotion, cream), Group name: Fragrance group
- Skin care products without Fragrance A (cleanser, lotion, cream), Group name: Control group

[Evaluation items and methods]

- Overall sleep quality: Japanese version of the Pittsburgh Sleep Quality Index (PSQI-J)²
- Skin brightness (L^* value): Spectrophotometer
- Pigmented spot score (pigmented spot visibility): VISIA® Evolution system
- Sense of relaxation: Survey

■ Results

1. With continued use, the fragrance group experienced an improvement in sleep quality and shortening of the time it takes to fall asleep.

The fragrance group showed a tendency for scores on the Japanese version of the Pittsburgh Sleep Quality Index (PSQI-J) to decrease, confirming a trend toward improvement in overall sleep quality (Figure 1). In particular, the score for “sleep onset latency”³ was significantly shortened, resulting in the assessment that the time it took to fall asleep after going to bed was shortened (Figure 2).

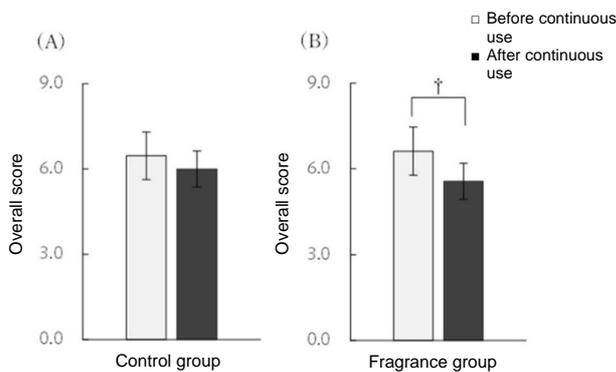


Figure 1. Overall score on the Pittsburgh Sleep Quality Index

(A) Control group (B) Fragrance group

† : $p < 0.1$, paired t-test

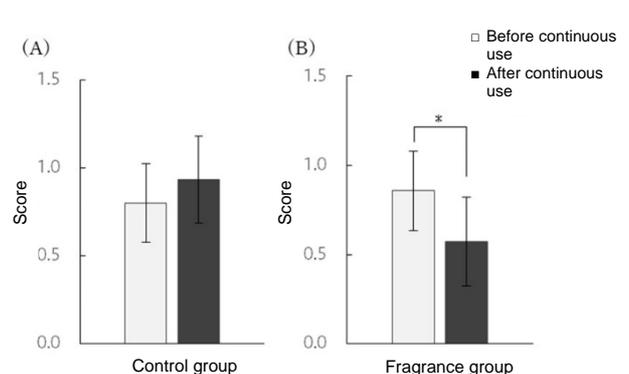


Figure 2. Sleep onset latency scores before and after continuous use (changes in the Pittsburgh Sleep Quality Index)

(A) Control group (B) Fragrance group

* : $p < 0.05$, paired t-test

2. In the fragrance group, continued use improved skin brightness and reduced the visibility of pigmented spots.

Regarding skin condition, continued use significantly improved skin brightness (L^* value) in the fragrance group (Figure 3).

In addition, the pigmented spot score measured by the image analysis system (VISIA® Evolution) was significantly improved (decreased) (Figure 4). The pigmented spot score is an index of pigmented spot visibility calculated through image analysis, and it is believed that improved skin brightness made the pigmented spots less visible, resulting in an improvement in the score.

These results demonstrate the benefits of continued use of skin care products containing Fragrance A on the skin.

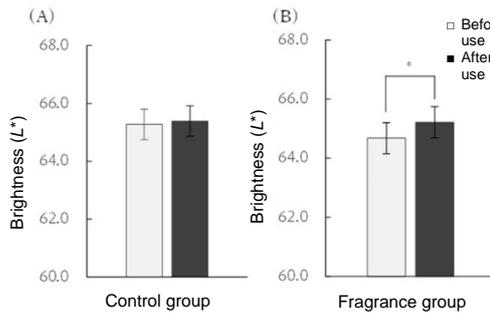


Figure 3. Skin brightness L^* before and after continuous use

(A) Control group (B) Fragrance group

* : $p < 0.05$, paired t-test

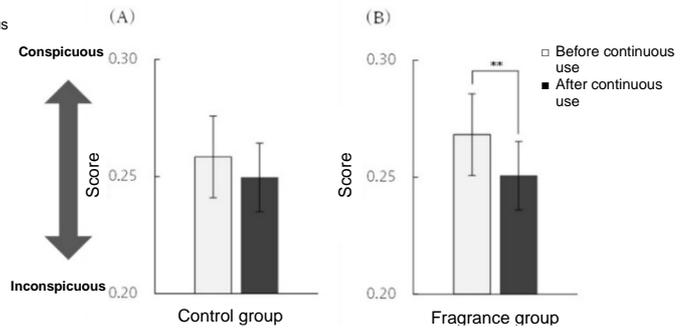


Figure 4. Changes in VISIA® Evolution pigmented spot score

(A) Control group (B) Fragrance group

** : $p < 0.01$, paired t-test

3. The fragrance group experienced a greater sense of relaxation after continued use than the control group.

A questionnaire survey was used to assess the sense of relaxation after continued use, and results showed that the sense of relaxation improved significantly in the fragrance group (Figure 5).

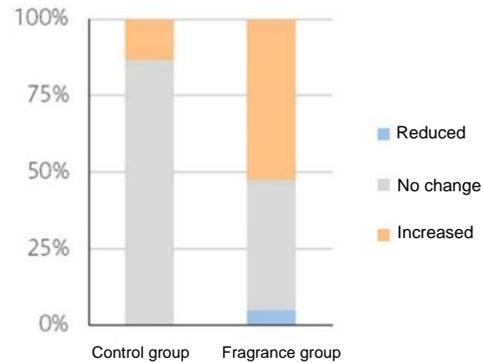


Figure 5. Sense of relaxation after continuous use of skin care products
We asked about changes in the sense of relaxation after continuous use compared to before use.

Analysis and summary

In this study, it was confirmed that continuous use of skin care products containing Fragrance A improves sleep and skin condition and increases sense of relaxation. These results suggest that the relaxing effect of Fragrance A brings about psychological comfort and that this comfort may also be involved in improving sleep and skin condition.

Going forward, we will continue to promote affective research from multiple perspectives, in addition to fragrance, and to develop “skincare for joyful skin, joyful you.”

Remarks

*1 Released on February 29, 2024 https://www.mandom.co.jp/en/release/pdf/2024022901_en.pdf

Visualizing “scent” impressions, often indescribable in words, using an evaluation approach that uses scene images—To decipher emotional value based on feelings from multiple perspectives, which cannot be gauged by physiological measurements and psychological tests—

*2 Pittsburgh Sleep Quality Index

A questionnaire survey to assess overall subjective sleep quality over the past month. The scores from seven components of subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction are added to calculate the overall score.

*3 The time it takes to fall asleep after going to bed.